IN THE CLAIMS AMEND

1. (Currently Amended) Flat storage element for an X-ray image, with a large number of storage particles (20) which may be placed by means of X-ray light in metastable excitation states that are convertible by irradiation with activating light into an unstable excitation state which is in turn decomposed with the radiation of fluorescent light, and with a transparent binding agent (22) by means of which the storage particles (20) are held together to forma storage layer (12), wherein the binding agent (22) and the storage particles (20) have substantially the same refractive index and the binding agent is crystal clear, characterised in that the storage particles (20) consist of a transparent salt material which comprises two salts chemically different but crystallizing in the same crystal structure, wherein the salts form a mixed crystal.

2. (Original) Storage element according to claim 1, characterised in that the salts differ in their cations and/or anions.

3. (Original) Storage element according to claim 2, characterised in that the cations are halide ions.

4. (Previously Amended) Storage element according to claim 1, characterised in that the binding agent (22) is a transparent plastics material with a refractive index of between 1.4 and about 1.6.

5. (Previously Amended) Storage element according claim 1, characterised in that the refractive index of the material of the storage particles (20) and/or the refractive index of the binding agent (22) is isotropic.

6. (Previously Amended) Storage element according to claim 1, characterised by an anti-reflection coating (14) borne by the front surface of the storage layer (12).

7. (Previously Amended) Storage element according to claim 1, characterised in that the rear side of the storage layer (12) bears an absorbing layer (16) which absorbs the activating light.

8. (Previously Amended) Storage element according to claim 1, characterised in that on the rear side of the storage layer (12) a reflecting layer (16) is provided, which reflects the fluorescent light and is preferably connected firmly to the storage layer (12).

9. (Previously Amended) Storage element according to claim 1, characterised in that behind the storage layer (12) is arranged a protective layer (18) of material absorbing X-ray beams, in particular a metal layer consisting of a metal with high order number such as lead.

10. (Original) Storage element according to claim 9, characterised in that the protective layer (18) is connected firmly to the storage layer (12), e.g. with the use of an adhesive layer (16) which preferably simultaneously assumes the function of the absorbing layer (16) according to claim 7.

11. (Previously Amended) Storage element according to claim 1, characterised in that the storage layer (12) and/or the anti-reflection coating (14) and/or the absorbing layer (16) and/or the reflecting layer (16) and/or the protective layer (18) form a bendable layered structure.

B1

12. (Previously Amended) Method for producing a storage element according to claim 1, characterised in that binding agent (22) is prepared in the liquid state and the storage particles (20) are dispersed in the liquid binding agent (22), and that the material obtained in this way is dispersed to form a thin film-type layer and the binding agent is then cured.

13. (Original) Method according to claim 12, characterised in that the binding agent (22) is prepared in the highly liquid state, to which end it is diluted and/or heated.

B2

14. (New) The storage element according to claim 1, characterised in that the crystal clear binding agent is chosen from the group consisting of EIFE, MF resin, EP resin, crowns, flints, rigid PVC, PS, SAN, PMMA, PA6, PA66, PA11, Pa12, and PC.

15. (New) A method for producing a storage element for an X-ray image with a large number of storage particles which may be placed by means of X-ray light in metastable

excitation states that are convertible by irradiation with activating light into an unstable excitation state which is in turn decomposed with the radiation of fluorescent light, and with at transparent binding agent by means of which the storage particles are held together to forma storage layer, wherein the binding agent and the storage particles have substantially the same refractive index, characterized in that the refractive index of the binding agent is measured and in that two salts, which are chemically different but crystallize in the same crystal structure are selected, one of which having a refractive index lower than the refractive index of the binding agent and the other having a refractive index above the refractive index of the binding agent and the two salts are mixed in a proportion such that the refractive index of the mixed crystals obtained form the two salts matches the refractive index of the binding agent.

16. (New) The method according to claim 15, wherein the binding agent is crystal clear.

17. (New) The method according to claim 16, wherein the binding agent is taken from the group consisting of EIFE, MF resin, EP resin, crowns, flints, rigid PVC, PS, SAN, PMMA, PA6, PA66, PA11, PA12, and PC.

18. (New) The method as in claim 15, wherein the salts differ in their cations.

19. (New) The method as in claim 15, wherein the salts differ in their anions.

20. (New) The method as in claim 15, wherein the salts differ in their cations and anions.